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Date: February 17, 2009 /Stacey Bussey/
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Applicant(s): Daniel Dedu-Constantin, *et al.*

Serial No: 09/894,653

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Examiner: Te. Y Chan

Art Unit: 2161

Title: SYSTEM AND METHOD FACILITATING UNIFIED FRAMEWORK FOR STRUCTURED/UNSTRUCTURED DATA

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APPEAL BRIEF

Dear Sir:

Applicants submit this brief in connection with an appeal of the above-identified patent application. Payment of the $200.00 difference between the current fee for filing this Appeal Brief and a fee paid in connection with an appeal filed August 25, 2004 is submitted herewith. A final Board decision was not rendered on the prior appeal, thus, previously paid fees are applied to the new appeal. The Commissioner is authorized to charge such fee to Deposit Account No. 50-1063 [MSFTP250US].

I. Real Party in Interest (37 C.F.R. §41.37(c)(1)(i))

The real party in interest in the present appeal is Microsoft Corporation, the assignee of the present application.

II. Related Appeals and Interferences (37 C.F.R. §41.37(c)(1)(ii))

U.S. Patent Application Serial No. 11/190,678, entitled "SYSTEM AND METHOD FACILITATING UNIFIED FRAMEWORK FOR STRUCTURED/UNSTRUCTURED DATA", is a divisional application of the subject application and is also pending appeal before the Board.

III. Status of Claims (37 C.F.R. §41.37(c)(1)(iii))

No claims allowed. Claims 3-7, 9, and 11-29 have been cancelled and claims 1, 2, 8, 10, and 30-45 are currently pending in the subject application and are presently under consideration. The rejection of claims 1, 2, 8, 10, and 30-45 is appealed.

IV. Status of Amendments (37 C.F.R. §41.37(c)(1)(iv))

No claim amendments have been entered after the Final Office Action. In addition, amendments submitted after Final have not been entered for the purpose of appeal.

V. Summary of Claimed Subject Matter (37 C.F.R. §41.37(c)(1)(v))

Independent claim 1

Independent claim 1 recites a computer-implemented system for accessing data, comprising: a parser that receives and parses information associated with a data source (See Fig. 1, pg. 7, ll. 20-30); a data document component that receives a portion of the parsed information, the data document component stores a hierarchical model representation of the portion of the parsed information associated with the data source (See Fig. 1, pg. 7, ll. 22-25; Fig. 4, pg. 12, ll. 9-24); and a data set component that receives the portion of the parsed information, the data set component stores a relational model representation of the at least a portion of the parsed information associated with the data source (See Fig. 1, pg. 7, ll. 25-30; Fig. 4, pg. 12, ll. 9-24), the data set component and the data document component coordinate to enable changes made to the portion of the parsed information stored in the hierarchical model representation to be

synchronized to the relational model representation and changes made to the portion of the parsed information stored in the relational model representation to be synchronized to the hierarchical model (See Fig. 1, pg. 8, ll. 1-10, ll. 11-31), wherein memory coupled to a process retains the parser, the data document component, the data set component or combinations thereof (See Fig.9).

Independent claim 8

Independent claim 8 recites a system stored on computer storage medium, the system facilitating access to data, comprising: an XML data document component that stores a hierarchical model representation of data in an XML source document (See Fig. 5, pg. 12, ln. 30 – pg. 13, ln. 7); and a data set component that stores a relational model representation of a portion of the data in the XML source document (See Fig. 5, pg. 12, ln. 30 – pg. 13, ln. 7), the XML data document component facilitates access to the hierarchical model representation of the data and propagates changes to the *via* the hierarchical model to the relational model representation of the data set component according to a mapping between the XML data document component and the data set component (See Fig. 5, pg. 13, ll-8-18; pg. 13, ll. -19-31), the data set component enables relational access to the portion of the data in the relational model representation and propagates changes to the portion of the data to the hierarchical model representation of the data store by the XML data document component (See Fig. 5, pg. 13, ll-8-18; pg. 13, ll. -19-31); wherein memory coupled to a processor retains the XML data document component, the data set component or combinations thereof (See Fig. 9).

Independent claim 34

Independent claim 34 recites computer-executable instructions stored upon a computer-readable storage medium, the instructions perform a method comprising: parsing data from a data source (See Fig. 5; pg. 12, ln. 30 – pg. 13, ln. 7; pg. 13, ll. 19-31; pg. 12, ll. 12-13; pg. 7, ll. 20-30); mapping a hierarchical model representation of at least some of the parsed data to a relational model representation of at least some of the parsed data (See pg. 8, ll. 11-31; pg. 10, ln. 22 – pg. 11, ln. 17); and synchronizing changes made to the hierarchical model representation of the least some of the parsed data with the relational model representation of the at least some of the parsed data based at least in part on the mapping (See pg. 8, ll. 1-10; pg. 12, ll. 9-24).

Independent claim 35

Independent claim 35 recites a system retained upon a computer-readable storage medium, the system comprising: means for parsing information associated with a data source, the data source includes at least one of an XML document or a database (See pg. 7, ll. 22-30; pg. 12, ll. 9-24); means for constructing a hierarchical model representation of at least a first portion of the parsed information (See pg. 7, ll. 22-25; pg. 12, ll. 16-18; pg. 12, ln. 30 – pg. 13, ln. 2; pg. 13, ll. 22-24); means for constructing a relational model representation of at least a second portion of the parsed information (See 7, ll. 25-30; pg. 11, ll. 18-25; pg 12, ll. 16-18; pg. 13, ll. 2-7; pg. 13, ll. 22-25); means for mapping the first portion of parsed information in the hierarchical model representation with an overlapping segment of the second portion of the parsed information in the relational model representation, the overlapping segment comprises parsed data included in the first portion and the second portion (See pg. 8, ln. 11 – pg. 10, ln. 16); means for synchronizing changes made to the overlapping segment via the hierarchical model representation with the relational model representation (See pg. 8, ll. 1-10; pg. 12, ll. 9-24; pg. 13-8-31); and means for synchronizing changes made to the overlapping segment via the relational model representation with the hierarchical model representation (See pg. 8, ll. 1-10; pg. 12, ll. 9-24; pg. 13-8-31).

Independent claim 36

Independent claim 36 recites a computer-implemented system that facilitates access to data, comprising: a parser that extracts data from a data source, the data source is at least one of an XML document or a relational database (See pg. 7, ll. 22-30; pg. 12, ll. 9-24); a data document component that retains at least a portion of the extracted data from the data source as a hierarchical representation, the data document component enables access to the portion in a hierarchical manner (See pg. 7, ll. 22-25; pg. 12, ll. 16-18; pg. 12, ln. 30 – pg. 13, ln. 2; pg. 13, ll. 22-24); a data set component that retains at least a portion of the extracted data from the data source as a relational representation, the data set component enables access to the portion in a relational manner (See pg. 7, ll. 25-30; pg. 11, ll. 18-25; pg 12, ll. 16-18; pg. 13, ll. 2-7; pg. 13, ll. 22-25); and the data document component and the data set component coordinate to maintain synchronization, the hierarchical representation is mapped to at least some of the relational that corresponds to same data from the data source (See pg. 8, ln. 11 – pg. 10, ln. 16), the data

document component propagates changes to the hierarchical representation to the data set component based upon a mapping and the data set component propagates changes to the relational representation to the data document component based upon the mapping (See pg. 8, ll. 1-10; pg. 12, ll. 9-24; pg. 13-8-31).

VI. Grounds of Rejection to be Reviewed (37 C.F.R. §41.37(c)(1)(vi))

A. Whether claims 1, 2, 8, 10, and 30-45 should be rejected under 35 U.S.C. §102(e) in view of Holder et al. (U.S. Patent Application Publication 2002/0019824 A1).

VII. Argument (37 C.F.R. §41.37(c)(1)(vii))

A. Rejection of Claims 1, 2, 8, 10, and 30-45 Under 35 U.S.C. §102(e)

Claims 1, 2, 8, 10, and 30-45 stand rejected under 35 U.S.C. §102(e) in view of Holder et al. (US 2002/0019824). It is respectfully requested that this rejection be reversed for at least the following reasons. Holder et al. does not disclose each and every feature of the subject claims.

> A single prior art reference anticipates a patent claim only if it ***expressly or inherently describes each and every limitation set forth in the patent claim***. *Trintec Industries, Inc. v. Top-U.S.A. Corp.,* 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The ***identical invention must be shown in as complete detail as is contained in the … claim***. *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (emphasis added).

The claimed subject matter relates to accessing data in a data source via a hierarchical representation or a relational representation of the data regardless of the structure of the data source (*See* Summary). A data source can be a relational database or an XML file. The data source can be parsed in the case of an XML In particular, claim 1 recites *a computer-implemented system for accessing data, comprising: a parser that receives and parses information associated with a data source;* ***a data document component that receives a portion of the parsed information, the data document component stores a hierarchical model representation of the portion of the parsed information associated with the data source; and a***

data set component that receives the portion of the parsed information, the data set component stores a relational model representation of the at least a portion of the parsed information associated with the data source*, the data set component and the data document component coordinate to enable changes made to the portion of the parsed information stored in the hierarchical model representation to be synchronized to the relational model representation and changes made to the portion of the parsed information stored in the relational model representation to be synchronized to the hierarchical model.* Holder et al. does not disclose each and every feature of claim 1.

Holder et al. relates to generically describing and manipulating arbitrary data structures. (*See* Abstract). Data available in different kinds of repositories can be modeled in a uniform way to enable access to the data in a generic way. (*See* paragraph 12). For instance, a resource can be located, an XML file describing the structure of the resource can be read, hierarchical control information can be generated and access can be enabled. (*See* paragraph 15). Multiple resources can be expressed in a single schema and duplicate data can be updated across all resources. (*See* paragraph 22). For instance, interfaces can be established for each resource within the schema such that actual access to the resource is conducted by the interfaces while a generic schema is presented to users. (*See* paragraph 20). A resource includes a schema and a tree-structure is constructed in accordance with the schema. Additional resources can be joined (e.g., added) to the tree-structure. When changes to the tree-structure occur, the underlying interfaces associated with individual resources are invoked to update the original resources. (*See* paragraphs 24-26). When accessing one or more resources, the cited art discloses an engine that constructs a tree structure according to the schemas of the resources. (*See* paragraph 62). The tree-structure is populated with actual contents of the resources. (*See* paragraph 66).

Accordingly, the cited art discloses constructing a single tree-structure (e.g., hierarchical data structure) based upon schemas of one or more underlying heterogeneous resources. Nowhere does Holder et al. disclose a data document component that stores a hierarchical representation of data from a data source and a data set component that stores a relational representation of data from a data source. Rather, the cited art describes combing a plurality of resources into a single tree representation. Holder et al. relates to providing a generic, uniform interface to one or more heterogeneous resource. In the claimed subject matter, a data source is parsed to generate both a hierarchical representation and a relational representation of the data.

Thus, the cited art relates to combining multiple resources into a single representation whereas the claims recite providing multiple representations of a single data source.

Moreover, as Holder et al. fails to disclose a data set component that stores a relational representation of data from a data source and a data document component that stores a hierarchical representation, the cited art likewise fails to disclose coordination between the two components. As recited in the claim, changes made to data parsed from the data source, in either the relational representation or the hierarchical representation are synchronized to the other representation. For instance, changes made via the hierarchical representation are synchronized to the relational representation and vice versa.

Further yet still, it is stated in the subject Final Object Action that Holder et al. discloses a data set component at paragraphs 5. However, the cited portion defines a resource as a data item, a data set, and/or structural elements. Claim 1 recites a data set component that stores a relational representation of a portion of data parsed from a data source. The cited portion does not disclose receiving a portion of parsed data from a data source and storing a relational representation. Rather, the cited portion discloses a resource can be a data set. A data set (e.g., data) is not a component that receives and stores a relational representation of data from a data source. Therefore, for at least the reasons stated above, Holder et al. fails to disclose each and every feature of independent claim 1.

Dependent claim 30 depends from claim 1 and recites a structural inference component that infers a relational model structure of the data source. Holder et al. requires, as a pre-requisite, a schema of a resource to be provided in an associated XML file. Thus, schemas are already provided. Holder et al. does not disclose inferring a relational model structure of a data source as the systems disclosed in Holder et al. are provided, as a pre-requisite, with an XML file that describes the schema of a resource.

Independent claim 8 recites a data set component that stores a relational model representation of a portion of the data in the XML source document. As discussed supra, Holder et al. does not disclose a relational model representation of data stored in an XML source document. Rather, the cited art relates to constructing a tree-structure (e.g., a non-relational representation) from one or more resources. Accordingly, Holder et al. fails to disclose each and every aspect of claim 8. Further yet, dependent claim 32 recites the data set component comprises a structural inference component that infers a relational model structure of the XML

source document. As described supra, Holder et al. requires a schema of a resource to be provided as a pre-requisite. Thus, Holder et al. always receives a schema with an XML file and nowhere discloses inferring a relational model structure of an XML source document as recited in claim 32.

Independent claim 34 recites, in part, *mapping a hierarchical model representation of at least some of the parsed data to a relational model representation of at least some of the parsed data and synchronizing changes made to the hierarchical model representation of the least some of the parsed data with the relational model representation of the at least some of the parsed data based at least in part on the mapping*. Holder et al. fails to disclose such aspects. Holder et al. consolidates structures of one or more resources into a single tree structure (e.g., single hierarchy). Holder et al. fails to disclose both a hierarchical representation and a relational representation of data in a data source as recited in claim 34. In addition, Holder et al. fails to disclose synchronizing between a hierarchical representation and a relational representation when changes are made to either one. In Holder et al., the single tree structure enables similar data spread across a plurality of resources to be consolidated and accessed. In addition, changes made through access to the single tree structure can be propagated down to all individual resources. Thus, Holder et al. discloses combining similar data into a single representation and back propagating changes. In the claimed subject matter, a hierarchical and a relational representation of parsed data are generated. In addition, changes are synchronized therebetween. Therefore, Holder et al. relates to consolidating similar data into one representation while the claimed subject matter relates to generating multiple representations of similar data. Thus, Holder et al. fails to disclose each and every feature of independent claim 34.

Claim 43 depends from claim 34 and recites, in part, inferring a relational model structure of the XML document. Claim 45 similar recites, in part, means for inferring a relational model structure of the XML document. As discussed supra, Holder et al. is silent regarding inferring relational structures from XML documents. Rather, schemas of resources are provided along with XML files.

Independent claim 35 recites, in part, means for parsing information associated with a data source, the data source includes at least one of an XML document or a database; means for constructing a hierarchical model representation of at least a first portion of the parsed information; and means for constructing a relational model representation of at least a second

portion of the parsed information. Similarly, independent claim 36 recites, in part, a parser that extracts data from a data source, the data source is at least one of an XML document or a relational database; a data document component that retains at least a portion of the extracted data from the data source as a hierarchical representation, the data document component enables access to the portion in a hierarchical manner; and a data set component that retains at least a portion of the extracted data from the data source as a relational representation, the data set component enables access to the portion in a relational manner. Holder et al. fails to disclose such aspects. In particular, Holder et al. relates to replicating data in one or more resources into a single tree structure. Thus, Holder et al. fails to disclose parsing a data source and generating both a hierarchical model representation and a relational model representation of the data. In addition, Holder et al. does not disclose propagating changes between a relational representation and a hierarchical representation of data in the XML source document. Therefore, Holder et al. fails to disclose each and every feature of independent claims 35 and 36.

It is evident from the above discussion that Holder et al. discloses merging structures of one or more resources into a *single* tree structure. Holder et al. is silent regarding storing *both* a hierarchical model representation and a relational model representation of information in a data source and further coordinating the two representations such that changes made to one representation are reflected in the other representation as recited by the subject claims. The cited art provides a single hierarchical representation of one or more resources while the claimed subject matter enables access to a data source *via* a hierarchical model representation and/or a relational model representation.

In addition, the standard by which anticipation is to be measured is strict identity between the cited document and the invention as claimed, not mere equivalence or similarity. *See*, *Richardson* at 9 USPQ2d 1913, 1920. This means that in order to establish anticipation under 35 U.S.C. §102, the single document cited must not only expressly or inherently describe each and every limitation set forth in the patent claim, but also the identical invention must be shown in as complete detail as is contained in the claim. The fact that Holder et al. fails to provide creating both a hierarchical representation and a relational representation leads one to believe that the cited document, in the final analysis, does not provide an invention identical to that recited in the subject claims.

In view of at least the foregoing, it is readily apparent that Holder et al., neither discloses, teaches nor suggests, each and every feature recited in claims 1, 2, 8, 10 and 30-45. Accordingly, it is respectfully submitted that Holder et al. does not anticipate the claimed subject and, therefore, it is requested that this rejection be reversed.

B. Conclusion

For at least the above reasons, the claims currently under consideration are believed to be patentable over the cited art. Accordingly, it is respectfully requested that the rejections of claims 1, 2, 8, 10, and 30-45 be reversed.

If any additional fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP250US].

Respectfully submitted,
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VIII. Claims Appendix (37 C.F.R. §41.37(c)(1)(viii))

1. A computer-implemented system for accessing data, comprising:

a parser that receives and parses information associated with a data source;

a data document component that receives a portion of the parsed information, the data document component stores a hierarchical model representation of the portion of the parsed information associated with the data source; and

a data set component that receives the portion of the parsed information, the data set component stores a relational model representation of the at least a portion of the parsed information associated with the data source,

the data set component and the data document component coordinate to enable changes made to the portion of the parsed information stored in the hierarchical model representation to be synchronized to the relational model representation and changes made to the portion of the parsed information stored in the relational model representation to be synchronized to the hierarchical model;

wherein memory coupled to a process retains the parser, the data document component, the data set component or combinations thereof.

2. The system of claim 1, the data source is a relational database.

3-7. (Cancelled)

8. A system stored on computer storage medium, the system facilitating access to data, comprising:

an XML data document component that stores a hierarchical model representation of data in an XML source document; and

a data set component that stores a relational model representation of a portion of the data in the XML source document,

the XML data document component facilitates access to the hierarchical model representation of the data and propagates changes to the data *via* the hierarchical model to the relational model representation of the data set component according to a mapping between the XML data document component and the data set component,

the data set component enables relational access to the portion of the data in the relational model representation and propagates changes to the portion of the data to the hierarchical model representation of the data store by the XML data document component;

wherein memory coupled to a processor retains the XML data document component, the data set component or combinations thereof.

9. (Cancelled)

10. The system of claim 8, further comprising an XML parser that retrieves information from the XML source document and sends the information to the XML data document component and the data set component.

11-29. (Cancelled)

30. The system of claim 1, the data set component comprises a structural inference component that infers a relational model structure of the data source.

31. The system of claim 1, the data set component comprises a schema component that receives a schema describing a relational model structure of the data source.

32. The system of claim 10, the data set component further comprising a structural inference component that infers a relational model structure of the XML source document.

33. The system of claim 10, the data set component further comprising a schema component that receives a schema describing a relational model structure of the XML source document.

34. Computer-executable instructions stored upon a computer-readable storage medium, the instructions perform a method comprising:

parsing data from a data source;

mapping a hierarchical model representation of at least some of the parsed data to a relational model representation of at least some of the parsed data; and

synchronizing changes made to the hierarchical model representation of the least some of the parsed data with the relational model representation of the at least some of the parsed data based at least in part on the mapping.

35. A system retained upon a computer-readable storage medium, the system comprising:

means for parsing information associated with a data source, the data source includes at least one of an XML document or a database;

means for constructing a hierarchical model representation of at least a first portion of the parsed information;

means for constructing a relational model representation of at least a second portion of the parsed information;

means for mapping the first portion of parsed information in the hierarchical model representation with an overlapping segment of the second portion of the parsed information in the relational model representation, the overlapping segment comprises parsed data included in the first portion and the second portion;

means for synchronizing changes made to the overlapping segment via the hierarchical model representation with the relational model representation; and

means for synchronizing changes made to the overlapping segment via the relational model representation with the hierarchical model representation.

36. A computer-implemented system that facilitates access to data, comprising:

a parser that extracts data from a data source, the data source is at least one of an XML document or a relational database;

a data document component that retains at least a portion of the extracted data from the data source as a hierarchical representation, the data document component enables access to the portion in a hierarchical manner;

a data set component that retains at least a portion of the extracted data from the data source as a relational representation, the data set component enables access to the portion in a relational manner; and

the data document component and the data set component coordinate to maintain synchronization, the hierarchical representation is mapped to at least some of the relational that corresponds to same data from the data source, the data document component propagates changes to the hierarchical representation to the data set component based upon a mapping and the data set component propagates changes to the relational representation to the data document component based upon the mapping.

37. The system of claim 1, the data source is an XML document.

38 The system of claim 1, the data set component enables access to the relational model representation in accordance with access to a relational database.

39 The system of claim 1, the data document component enables access to the hierarchical model representation in accordance with access to an XML document.

40. The system of claim 8, the data set component enables access to the relational model representation as a relational database.

41. The system of claim 8, the XML document component enables access to the hierarchical model representation as an XML document.

42. The computer-readable instructions of claim 34, the data source is an XML document.

43. The computer-readable instructions of claim 34, the instructions further performing:

inferring a relational model structure of the XML document; and

employing the inferred relational model structure to create the relational model representation;

44. The system of claim 35, further comprising:

means for receiving a schema related to the XML document; and

means for constructing the relational model representation based at least in part on the received schema.

45. The system of claim 35, further comprising:

means for inferring a relational model structure of the XML document; and

means for constructing the relational model representation based at least in part on the inferred relational model structure.

IX. Evidence Appendix (37 C.F.R. §41.37(c)(1)(ix))

None

X. Related Proceedings Appendix (37 C.F.R. §41.37(c)(1)(x))

The related proceeding identified in section II is pending appeal and no decision has been rendered by the Board.